

AGRICULTURE COUNTS

9

GRADES: K-3

SUBJECTS: Math, Reading, Social Studies, Visual Arts

OBJECTIVE: Students will read a story about our nation's first survey of agriculture, discuss reasons for counting things and gain practice by sorting and counting a variety of objects related to agriculture.

BACKGROUND

Do you remember when you first learned to count? For most people, counting is one of the first things their parents teach them. So if you're like most people you've been counting things almost as long as you've been talking.

Why do we count things? What kinds of things do we count? In ancient times people used tokens made from clay to keep count of things. If they wanted to remember how many sheep they had, they would gather as many of the tokens as they had sheep and place them in a safe place. Over time people began to keep count by making marks on the walls of caves to designate numbers. Some people think this was the first writing.

Why would ancient people need to remember how many sheep they had? They might need to keep track of them so they would know if any had wandered off. In that case they would need to go look for the one that was missing.

What are some of the things that you count? Maybe your mom tells you you can have three cookies. Or maybe you know you have 25 baseball cards and want to make sure your little brother didn't take any. Or maybe you know you will need 75 cents to buy a can of pop, and you need to know if you have enough money before you go to the store.

Counting is a very important part of all of our lives. The people who grow our food have to count very closely and keep very good records. They have to know how many acres to plant. They need to know how much seed and fertilizer they will need. And they need to know how many bushels of wheat or soybeans or peanuts their fields produced during the year. They keep careful records so they can make sure they are earning enough money to pay their

MATERIALS

Large bag of animal crackers

Snack mix (pretzels, peanuts, rice cereal, corn cereal, sunflower seeds, raisins)

8-10 paper plates



expenses. Those who raise animals need to know how many offspring their animals produce so they will know how much food to buy and how many they can sell. They need to know how much money they can expect to make, so they can plan for the coming year. Counting is a very important part of the farmer's job.

Our government needs to keep a good count of crops and farm animals so they will know what kind of help the farmers need to make sure we have enough food to eat. The U.S. Department of Agriculture's National Agricultural Statistics Service is the government agency responsible for keeping count.

ACTIVITY

1. Ask students why they count things. What kinds of things do they count? Write answers on the chalkboard.
2. Share background material, and read the story about Arthur Young and the President on Student Worksheet A.
3. Tell students they will be conducting their own agricultural census. Divide them into groups of four or five. Provide each group with a plate of animal crackers and a copy of the chart on Student Worksheet B.
4. Show students how to use tally marks to keep count. Explain that this is similar to the way ancient people kept count by drawing pictures on the walls of caves.
5. Have students draw pictures of the different animal crackers in separate columns on their worksheets. Then have students sort the animal crackers and use tally marks in the appropriate columns to count them.
6. Have students translate their tally marks into numbers, and ask one person from each group to make a "livestock report."
7. Draw a classroom chart on the chalkboard and record the data as the groups report it.
8. Repeat the process with the snack mix. Explain to students that the different ingredients in the mix represent different crops. Show students what each ingredient represents, and have students write the names of the different crops at the top of the columns on the chart on Student Worksheet C. Have students sort, count, record and report, as in steps five through seven.
9. Provide extra snack mix and animal crackers for students to eat.

ADDITIONAL ACTIVITIES

1. Provide students with other assortments to sort and count—

VOCABULARY

agriculture
census
livestock
crop
fertilizer
expenses
counting
token
acre



mixed seeds, mixed beans, mixed grains, variety candy mixes, crayons, bags of plastic farm animals, etc.

2. On a map of the U.S., have students locate the area surveyed in the story of Arthur Young and George Washington.
3. Have students make a mural like ancient cave drawings showing their animal cracker count. Use the classroom chart you made, and assign one animal to each of the groups. Students should make simple drawings to represent the animals they counted. Use brown paper and tempera paint in earth tones to make the mural look more like a cave drawing.
4. Make copies of the worksheets at the end of the lessons to give students additional practice counting.

EXTRA READING

Demi, *One Grain of Rice: A Mathematical Folk Tale*, Scholastic, 1996.

Mitsumasa Anno. *Anno's Counting Book*, HarperTrophy, 1986

Mitsumasa Anno. *Anno's Mysterious Multiplying Jar*, Paper Star, 1999.



Arthur Young and the President

In January of 1791, President George Washington received a letter from an Englishman named Arthur Young. Arthur Young had many questions about America.

“How much does it cost to buy land in America?” Arthur wrote.

“What kinds of crops grow there? How much does the land produce?”

“What kinds of animals do you raise on your farms? When you sell them, how much do you get paid?”

President Washington didn’t know the answers to all these questions, but he wanted to help. He thought as president of the new country he needed to know the answers to those questions.

But how could he find out what he needed to know?

He thought and thought and finally got an idea. He decided to send letters to all the farmers in the land and ask them the questions Arthur Young had asked him. This was our country’s first agricultural survey.

At that time nine of every ten of the citizens of our country were farmers. Most lived and farmed in what is today Pennsylvania, West Virginia, Maryland, Virginia, and the District of Columbia.

Washington sent the letters out and waited. The mail was much slower in 1791 than it is today. There were no airplanes or even trucks to deliver the mail across country. There were barely roads. And certainly there were no telephones, e-mail or fax machines.

Finally, after several months had passed, President Washington started getting letters back from the farmers. When he got all the information back, he put it together.

Between September 24 and November 18, 1791, President Washington sent three letters to Arthur Young. These were our country’s first crop reports.

Name _____

Agriculture Counts

B

My Census of Agriculture Livestock

Picture of animal	Count	Total

Name _____

Agriculture Counts

C

My Census of Agriculture
Crops

Name of Crop	Count	Total

Name _____

Agriculture Counts

D

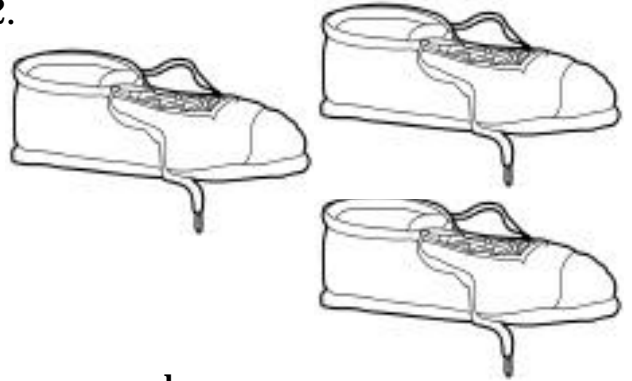
Count and write the number.

1.



_____ trees

2.



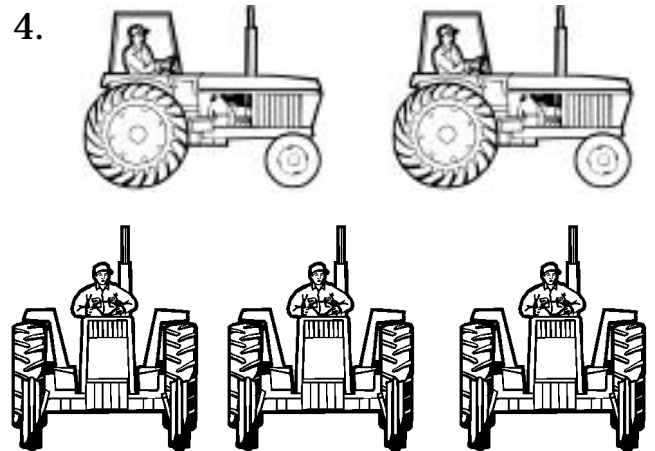
_____ shoes

3.



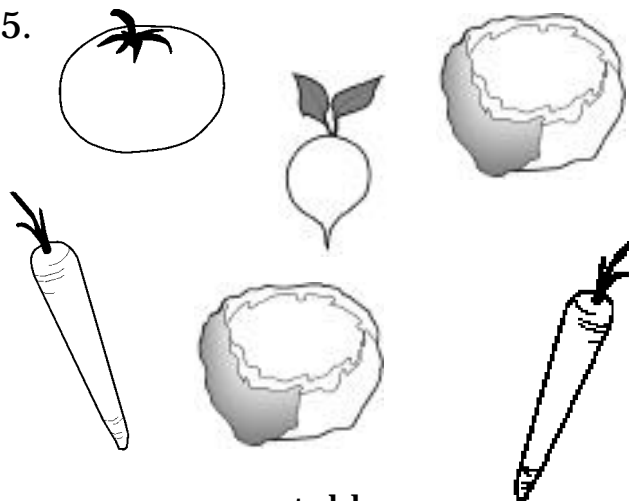
_____ bugs

4.

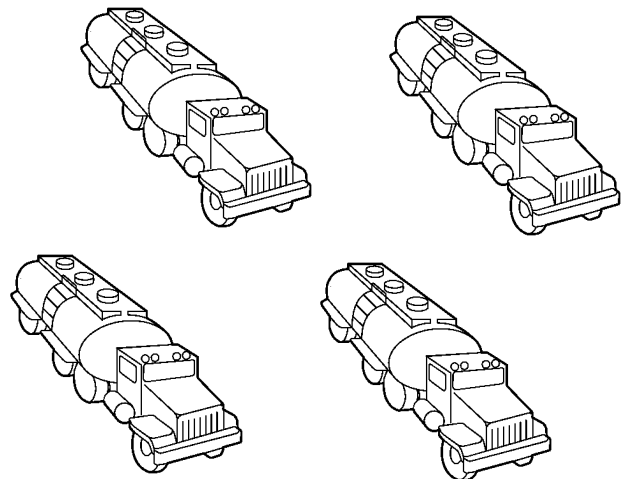


_____ tractors

5.



_____ vegetables



Oklahoma Ag in the Classroom,
1995

_____ trucks

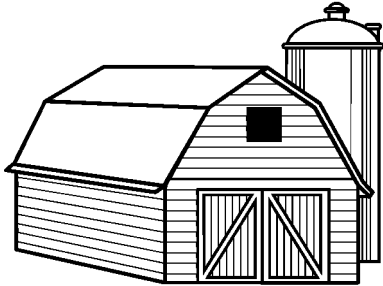
Name _____

Agriculture Counts

E

Count and write the number.

1.



_____barn

2.



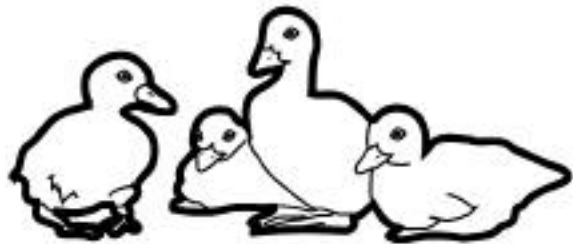
_____brushes

3.



_____pennies

4.



_____ducklings

5.



_____belts

6.



_____ice cream cones

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